Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-374

LCS

As of December 31, 2010

Defense Acquisition Management
Information Retrieval
(DAMIR)

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Program Information

Designation And Nomenclature (Popular Name)

Littoral Combat Ship (LCS)

DoD Component

Navy

Responsible Office

Responsible Office

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References

SAR Baseline (Planning Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated May 27, 2004

Approved APB

DAE Approved Acquisition Program Baseline (APB) dated April 7, 2011

Mission and Description

The Littoral Combat Ship (LCS) will be optimized for flexibility in the littorals as a system of systems that are both manned and unmanned, mission reconfigurable, and deployed in LCS. It will focus on three primary anti-access mission areas: Littoral Surface Warfare operations emphasizing prosecution of small boats, mine warfare, and littoral anti-submarine warfare. Its high speed and ability to operate at economical loiter speeds will enable fast and calculated response to small boat threats, mine laying and quiet diesel submarines. LCS employment of networked sensors for Intelligence, Surveillance, and Reconnaissance (ISR) in support of Special Operations Forces (SOF) will directly enhance littoral mobility. Its shallow draft will allow easier excursion into shallower areas for both mine countermeasures and small boat prosecution. Using LCS against these asymmetric threats will enable Joint Commanders to concentrate multi-mission combatants on primary missions such as precision strike, battle group escort and theater air defense.

Executive Summary

On February 18, 2011, USD(AT&L) conducted a Milestone B (MS B) Defense Acquisition Board (DAB) for the seaframe portion of the LCS program. The decision of the DAB was to separate the program into two separate and distinct programs with separate reporting requirements. The Seaframe portion of the program is reported in this SAR as approved at MS B. The Mission Module portion of the program will begin reporting when it receives its Milestone B decision. The LCS Seaframe program has been certified to Congress in accordance with section 2366b, title 10, United States Code.

This SAR is the first Milestone B SAR for the Research, Development, Test & Evaluation (RDT&E) and Ship Construction, Navy (SCN) Littoral Combat ships. The RDT&E have been utilized on the development of the seaframe design and the construction, delivery and post delivery testing and evaluation of USS FREEDOM (LCS 1) and USS INDEPENDENCE (LCS 2). The RDT&E will continue to support the sustaining engineering for the 55 ships of the LCS program. The ship construction, Navy (SCN) funds are being used for the construction of the recently launched LCS 3 (FORT WORTH) and on the construction of LCS 4 (CORONADO), plus the two FY 2010 ships recently awarded in the FY 2010 – 2015 Block Buy contracts, LCS 5 (MILWAUKEE) and LCS 6 (JACKSON).

The Acquisition Strategy approved by the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) on January 25, 2010 employed a down select strategy to one block buy of 10 ships of one design to achieve more competitive pricing.

The Navy conducted a limited competition amongst the existing LCS industry teams or team participants for the award of a contract for the construction of a block buy of up to ten (10) LCS Flight 0+ Class ships of one design from Fiscal Year 2010 through FY 2014. The industry teams/participants at that time were: (a) General Dynamics LCS Team: General Dynamics-Bath Iron Works, Austal USA, and General Dynamics Advanced Information Systems; and (b) the Lockheed Martin LCS Team: Lockheed Martin-Maritime Systems & Sensors, Fincantieri Marinette Marine Corporation, Bollinger Shipyards and Gibbs & Cox.

The request for proposal for the FY 2010 – 2014 LCS Flight 0+ Class ships was issued on January 26, 2010. Subsequently, Bath Iron Works decided to not compete for this competition, and the Navy received proposals from Austal USA and Lockheed Martin – Mission Systems & Sensors (LM) on April 12, 2010. The Navy evaluated these proposals, conducted detailed discussions with each offeror, and received Final Proposal Revisions with an objective of competitively awarding a single contract based upon the specified evaluation and award criteria set forth in the solicitation.

After careful review of the competitive prices received in response to the solicitation and consideration of total program costs and the benefits of continuing with two designs, the Navy determined that it was in the best interests of the Government to pursue an alternative acquisition strategy of a dual award of both designs. To execute this alternate strategy, the Navy required additional legislative authority from Congress to proceed. The dual-award strategy was approved on December 21, 2010 via Section 150 of H.R. 3082 amending the Continuing Appropriations Act, 2011 (P.L. 111-242).

An Acquisition Decision Memorandum, signed by USD (AT&L) on December 23, 2010, authorized execution of the alternative acquisition strategy for the FY 2010 through FY 2015 procurement of 20 Seaframes through two ten-ship block buy contracts and including economic order material (if authorized and appropriated by Congress).

On December 29, 2010, the Navy awarded a contract to each offeror for a block buy of up to ten ships beginning with the award of one FY 2010 ship and associated non-recurring engineering, development of the Technical Data Package, core class services, and associated data. On March 17, 2011, the Navy authorized and provided funding for the two FY 2011 ships, one to each contractor. This will be followed with two ships each in FY 2012 through FY 2015. The revised strategy also required the Navy to procure an additional ship in FY 2012 for a total of four ships

and extends the block buy through FY 2015 vice FY 2014 as originally planned.

LCS 1, USS FREEDOM completed her initial deployment and on April 23, 2010 arrived in its homeport of San Diego, California. LCS 1, USS FREEDOM participated in the Rim of the Pacific (RIMPAC) fleet exercise in Summer 2010 and now continues with its post delivery test and trials phase.

LCS 2, USS INDEPENDENCE commissioned on January 16, 2010, sailed away from Austal Shipyard in late March 2010 and now continues with its post delivery test and trials phase.

LCS 3, FORT WORTH launched and was christened on December 4, 2010 at the Marinette Marine facility in Marinette, Wisconsin. LCS 3 was approximately 80 percent complete at the time of launch and now is continuing its production efforts pier side.

Construction of LCS 4, CORONADO at the Austal, USA facility in Mobile, Alabama continues with launch planned for 2011.

LCS 5 has been named USS MILWAUKEE and LCS 6 has been named USS JACKSON.

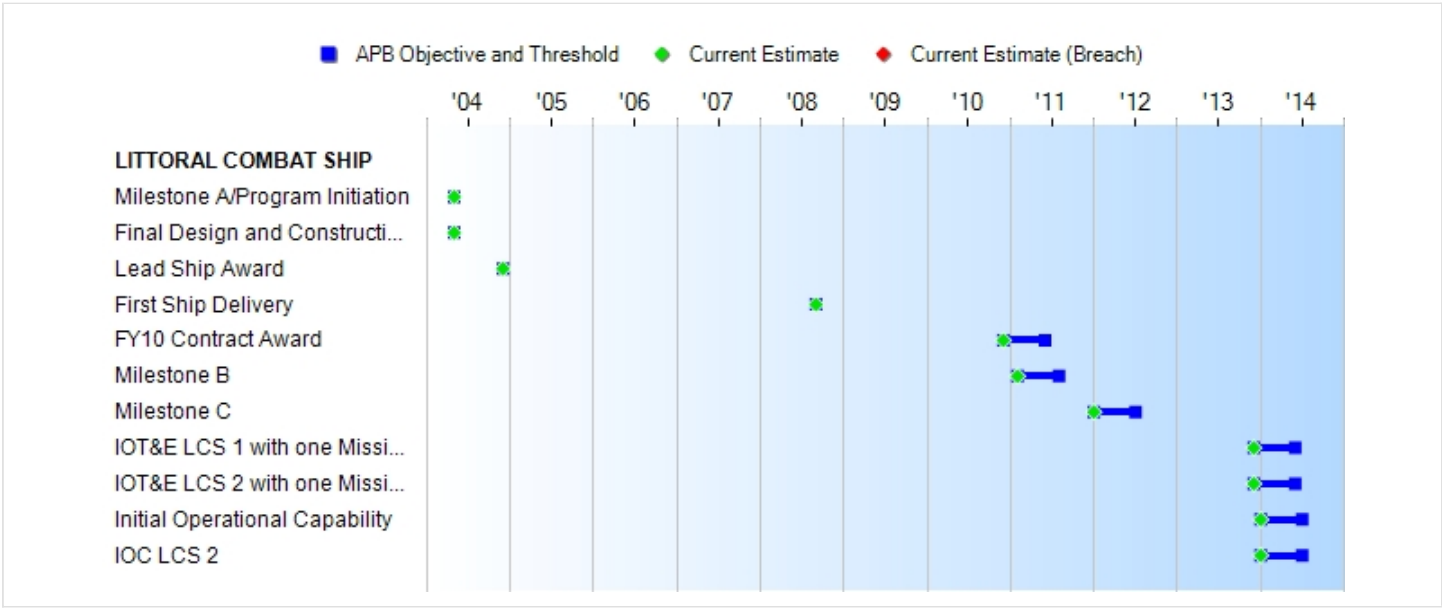
There are no significant software-related issues for this program at this time.

Threshold Breaches

APB Breaches		
Schedule		☐
Performance		☐
Cost	RDT&E	☐
	Procurement	☐
	MILCON	☐
	Acq O&M	☐
Unit Cost	PAUC	☐
	APUC	☐

Nunn-McCurdy Breaches		
Current UCR Baseline		
	PAUC	None
	APUC	None
Original UCR Baseline		
	PAUC	None
	APUC	None

Schedule



Milestones	SAR Baseline Plan Est	Current APB Development Objective/Threshold		Current Estimate	
Milestone A/Program Initiation	MAY 2004	MAY 2004	MAY 2004	MAY 2004	
Final Design and Construction Contract Award	MAY 2004	MAY 2004	MAY 2004	MAY 2004	
Lead Ship Award	DEC 2004	DEC 2004	DEC 2004	DEC 2004	
First Ship Delivery	JAN 2007	SEP 2008	SEP 2008	SEP 2008	
FY10 Contract Award	N/A	DEC 2010	JUN 2011	DEC 2010	(Ch-4)
Milestone B	JAN 2007	FEB 2011	AUG 2011	FEB 2011	(Ch-1)
Milestone C	DEC 2010	JAN 2012	JUL 2012	JAN 2012	(Ch-2)
IOT&E LCS 1 with one Mission Package	N/A	DEC 2013	JUN 2014	DEC 2013	(Ch-4)
IOT&E LCS 2 with one Mission Package	N/A	DEC 2013	JUN 2014	DEC 2013	(Ch-4)
Initial Operational Capability	OCT 2007	JAN 2014	JUL 2014	JAN 2014	(Ch-3)
IOC LCS 2	N/A	JAN 2014	JUL 2014	JAN 2014	(Ch-4)

Acronyms

APB - Acquisition Program Baseline
IOC - Initial Operational Capability
IOT&E - Initial Operational, Test and Evaluation

Change Explanations

(Ch-1) Milestone B date changed from June 2010 to February 2011. Change in date reflects when permission to proceed to Milestone B and transition to Engineering and Manufacturing Development acquisition phase was

received.

(Ch-2) Milestone C date changed from March 2015 to January 2012. Change in date reflects when the seaframe program will be prepared to proceed into Production and Deployment acquisiton phase.

(Ch-3) Initial Operational Capability date changed from September 2013 to January 2014. Change in date reflects completion of an IOT&E event with any mission package on LCS 1.

(Ch-4) FY10 Contract Award, IOT&E LCS 1 with one Mission Package, IOT&E LCS 2 with one Mission Package and IOC LCS 2 Milestones added with the Milestone B approved APB.

Memo

IOC for LCS 1 is achieved when IOT&E is conducted with any mission package.
IOC for LCS 2 is achieved when IOT&E is conducted with any mission package.

Performance

Characteristics	SAR Baseline Plan Est	Current APB Development Objective/Threshold		Demonstrated Performance	Current Estimate	
Sprint Speed (kts)	50	50	40	TBD	40 kts	
Navigational Draft (ft)	10	10	20	TBD	14ft	
Range at Transit Speed (includes payload)	4,300 nm @ 20 kt s	4,300 nm @ 16 kts	3,500 nm @ 14 kts	TBD	4,300 nm @ 16 kts	
Mission Package Payload (Weight)	210 MT (130 MT) mission package/80 MT mission package fuel)	210 MT (130 MT) mission package/80 MT mission package fuel)	180 MT (105 MT mission package/75 MT mission package fuel)	TBD	180 MT (105 MT) mission package/75 MT mission package fuel)	
Interoperability Informatin Exchange Requirements (IER)	Achieve 100% of top-level IERs	N/A	N/A	TBD	N/A	(Ch-1)
Core Crew Manning (# Core Crew Members)	15	15	50	TBD	40 Core Crew Members	
Focused Mission Execution	Demonstrate separate DTE scenari os in MIW, SUW and ASW to confirm successful integration of each focused mission package (weapon s and sensor systems) to the sea frame	N/A	N/A	TBD	N/A	(Ch-2)
Net- Ready: The system must support Net-Centric military operations. The system must be able to enter and be managed in the network, and exchange data in a secure manner to enhance mission	N/A	The system must fully support execution of all operational activities identified in the applicable joint and	The system must fully support execution of joint critical operational activities identified in the applicable joint and	TBD	The system must fully support execution of all operational activities identified in the applicable joint and	(Ch-3)

effectiveness. The system must continuously provide survivable, interoperable, secure, and operationally effective information exchanges to enable a Net-Centric military capability.		system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance (IA) requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an Approval to Operate (ATO) by the Designated Approval Authority (DAA), And 5) Operationally effective	system integrated architectures and the system must satisfy the technical requirements for transition to Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) IA requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an Interim Approval to Operate (IATO) by the Designated Approval Authority (DAA), and 5) Operationally effective		system integrated architectures and the system must satisfy the technical requirements for Net-Centric military operations to include 1) DISR mandated GIG IT standards and profiles identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW RM Enterprise Services 4) Information assurance (IA) requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an Approval to Operate (ATO) by the Designated Approval Authority (DAA), And 5) Operationally effective

		information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.		information exchanges; and mission critical performance and IA attributes, data correctness, data availability, and consistent data processing specified in the applicable joint and system integrated architecture views.	
Materiel Availability	N/A	0.712	0.64	TBD	0.712	(Ch-3)
Systems Training (Core Crew)	N/A	Trained-to-Certify at all Team (Watch Section) levels	Trained-to-Qualify at individual level (billet/watch station)	TBD	Trained-to-Qualify at individual level (billetWatch station)	(Ch-3)

Requirements Source:
Littoral Combat Ship (LCS) Flight 0 Capability Development Document (CDD), JROCM 083-04, May 25, 2004
Littoral Combat Ship (LCS) Flight 0+ Capability Development Document (CDD), JROCM 126-08, June 17, 2008

Acronyms

ASW - Anti-Submarine Warfare
ATO - Authority to Operate
DAA - Designated Approval Authority
DISR - DoD IT Standards Registry
DoD - Department of Defense
DTE - Detect to Engage
FT - Feet
GIG - Global Information Grid
IA - Information Assurance
IATO - Interim Authority to Operate
IER - Information Exchange Requirement
IT - Information Technology
KIP - Key Interface Profile
KPP - Key Performance Parameter
KTS - Knots

MIW - Mine Counter Measure
MT - Metric Ton
NCOW - Net Centric Operations and Warfare
NCOW RM - Net-Centric Operations Warfare Reference Model
NM - Nautical Miles
SUW - Surface Warfare

Change Explanations

(Ch-1) Interoperability Information Exchange Requirement KPP replaced by Net Ready KPP.

(Ch-2) Focused Mission Execution KPP replaced by classified KPPs to be reported by the Mission Module Program.

(Ch-3) Net Ready, Materiel Availability, and Systems Training KPPs added to reflect Milestone B APB and Flight 0+ CDD requirements.

Classified Performance information is provided in the classified annex to this submission.

Track To Budget

RDT&E							
APPN 1319	BA 04	PE 0603581N	(Navy)	Project 3096	(Shared)		
	Littoral Combat Ship/Littoral Combat Ship Development						
APPN 1319	BA 04	PE 0603581N	(Navy)	Project 3129			
	Littoral Combat Ship/LCS Mission Package Development						
APPN 1319	BA 04	PE 0603581N	(Navy)	Project 4018			
	Littoral Combat Ship/Littoral Combat Ship Construction						
APPN 1319	BA 04	PE 0603581N	(Navy)	Project 9999	(Shared)	(Sunk)	Congressional Add
	Littoral Combat Ship/Revised Acquisition Strategy						

RDT&E PE 0603581N Project 3129 is no longer reported in this SAR. A portion of Project 3096 was shared in prior fiscal years 2004 and 2005 is no longer reported in this SAR. The funds from Project 3129 and the amount apportioned in Project 3096 specifically utilized for Mission Module Development will be reported in the Mission Module Program SAR.

Procurement							
APPN 1611	BA 02	PE 0204230N	(Navy)	ICN 2127			
	Littoral Combat Ship						
APPN 1611	BA 05	PE 0204230N	(Navy)	ICN 5110			
	Outfitting/Post Delivery						
APPN 1810	BA 01	PE 0204230N	(Navy)	ICN 1320	(Shared)		
	Seaframe LCS Training						

MILCON							
APPN 1205	BA 01	PE 0203176N	(Navy)	Project 00245500	(Shared)		
	LCS Training Facility						
APPN 1205	BA 03	PE 0901211N	(Navy)	Project 64482044	(Shared)		
	Planning						

Cost and Funding

Cost Summary

Total Acquisition Cost and Quantity

	BY2010 $M			BY2010 $M	TY $M		
Appropriation	SAR Baseline Plan Est	Current APB Development Objective/Threshold		Current Estimate	SAR Baseline Plan Est	Current APB Development Objective	Current Estimate
RDT&E	1339.9	3433.3	3776.6	3426.8	1211.7	3481.7	3481.7
Procurement	0.0	28369.2	31206.1	28364.0	0.0	33720.5	33720.5
Flyaway	0.0	--	--	28364.0	0.0	--	33720.5
Recurring	0.0	--	--	28364.0	0.0	--	33720.5
Non Recurring	0.0	--	--	0.0	0.0	--	0.0
Support	0.0	--	--	0.0	0.0	--	0.0
Other Support	0.0	--	--	0.0	0.0	--	0.0
Initial Spares	0.0	--	--	0.0	0.0	--	0.0
MILCON	0.0	205.7	226.3	206.0	0.0	236.6	236.6
Acq O&M	0.0	0.0	--	0.0	0.0	0.0	0.0
Total	1339.9	32008.2	N/A	31996.8	1211.7	37438.8	37438.8

Cost and Funding data represented in this SAR supports the LCS Milestone B Defense Acquisition Board decisions as approved in February 2011 and represents an 80 percent confidence factor when considering 28 of the 55 ships of the LCS Seaframe Program will be funded outside the 2012 fiscal year defense program (FYDP) budget submission.

RDT&E PE 0603581N Project 3129 is no longer reported in this SAR. A portion of the Project 3096 for prior fiscal years 2004 and 2005 are no longer reported in this SAR. The funds from Project 3129 and the amount apportioned in Project 3096 specifically utilized for Mission Module Development will be reported in the Mission Module Program SAR.

In support of the Milestone B decision approved in February 2011, the base year of the LCS Seaframe program has been revised from FY 2004 to FY 2010. An approved OSD deflator of 1.13 for RDT&E and 1.12 for procurement was used to revise the base year from FY 2004 to FY 2010.

Quantity	SAR Baseline Plan Est	Current APB Development	Current Estimate
RDT&E	2	2	2
Procurement	0	53	53
Total	2	55	55

Total Procurement and RDT&E Seaframe Quantity is 55.

Funding Summary

Appropriation and Quantity Summary
FY2012 President's Budget / December 2010 SAR (TY$ M)

Appropriation	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
RDT&E	2138.4	117.2	145.1	183.9	206.1	74.7	41.6	574.7	3481.7
Procurement	2596.4	1512.1	1876.9	1865.4	1919.0	2058.0	1757.4	20135.3	33720.5
MILCON	0.0	0.0	0.0	0.0	0.0	0.0	0.0	236.6	236.6
Acq O&M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PB 2012 Total	4734.8	1629.3	2022.0	2049.3	2125.1	2132.7	1799.0	20946.6	37438.8
PB 2011 Total	3043.0	226.3	183.4	110.3	82.2	87.3	0.0	0.0	3732.5
Delta	1691.8	1403.0	1838.6	1939.0	2042.9	2045.4	1799.0	20946.6	33706.3

The unit of measure for the LCS Seaframe program is 53 procurement ships and two RDT&E procured ships for a program total of 55.

Quantity	Undistributed	Prior	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	To Complete	Total
Development	2	0	0	0	0	0	0	0	0	2
Production	0	4	2	4	4	4	4	3	28	53
PB 2012 Total	2	4	2	4	4	4	4	3	28	55
PB 2011 Total	2	0	0	0	0	0	0	0	0	2
Delta	0	4	2	4	4	4	4	3	28	53

Annual Funding By Appropriation

Annual Funding TY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2003	--	--	--	--	--	--	35.8
2004	--	--	--	--	--	--	116.8
2005	--	--	--	--	--	--	369.8
2006	--	--	--	--	--	--	384.5
2007	--	--	--	--	--	--	573.1
2008	--	--	--	--	--	--	200.9
2009	--	--	--	--	--	--	197.4
2010	--	--	--	--	--	--	260.1
2011	--	--	--	--	--	--	117.2
2012	--	--	--	--	--	--	145.1
2013	--	--	--	--	--	--	183.9
2014	--	--	--	--	--	--	206.1
2015	--	--	--	--	--	--	74.7
2016	--	--	--	--	--	--	41.6
2017	--	--	--	--	--	--	177.0
2018	--	--	--	--	--	--	26.3
2019	--	--	--	--	--	--	31.5
2020	--	--	--	--	--	--	42.8
2021	--	--	--	--	--	--	43.4
2022	--	--	--	--	--	--	32.6
2023	--	--	--	--	--	--	23.0
2024	--	--	--	--	--	--	31.2
2025	--	--	--	--	--	--	43.5
2026	--	--	--	--	--	--	44.1
2027	--	--	--	--	--	--	32.4
2028	--	--	--	--	--	--	23.3
2029	--	--	--	--	--	--	23.6
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**3481.7**

Annual Funding BY$
1319 | RDT&E | Research, Development, Test, and Evaluation, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2003	--	--	--	--	--	--	41.1
2004	--	--	--	--	--	--	130.5
2005	--	--	--	--	--	--	402.8
2006	--	--	--	--	--	--	406.1
2007	--	--	--	--	--	--	590.8
2008	--	--	--	--	--	--	203.4
2009	--	--	--	--	--	--	197.5
2010	--	--	--	--	--	--	257.3
2011	--	--	--	--	--	--	114.3
2012	--	--	--	--	--	--	139.4
2013	--	--	--	--	--	--	173.8
2014	--	--	--	--	--	--	191.5
2015	--	--	--	--	--	--	68.3
2016	--	--	--	--	--	--	37.4
2017	--	--	--	--	--	--	156.4
2018	--	--	--	--	--	--	22.8
2019	--	--	--	--	--	--	26.9
2020	--	--	--	--	--	--	35.9
2021	--	--	--	--	--	--	35.8
2022	--	--	--	--	--	--	26.5
2023	--	--	--	--	--	--	18.4
2024	--	--	--	--	--	--	24.5
2025	--	--	--	--	--	--	33.6
2026	--	--	--	--	--	--	33.5
2027	--	--	--	--	--	--	24.2
2028	--	--	--	--	--	--	17.1
2029	--	--	--	--	--	--	17.0
Subtotal	**2**	**--**	**--**	**--**	**--**	**--**	**3426.8**

RDT&E for the LCS Seaframe Program includes the detail design and construction of two Flight 0 ships in addition to the program development, test and evaluation and sustaining engineering.

RDT&E PE 0603581N Project 3129 is no longer reported in this SAR. A portion of the Project 3096 for prior fiscal years 2004 and 2005 are no longer reported in this SAR. The funds from Project 3129 and the amount apportioned in Project 3096 specifically utilized for Mission Module Development will be reported in the Mission Module Program SAR.

Annual Funding TY$
1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2006	--	500.0	--	--	500.0	--	500.0
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	2	1017.0	--	--	1017.0	--	1017.0
2010	2	1079.4	--	--	1079.4	--	1079.4
2011	2	1512.1	--	--	1512.1	--	1512.1
2012	4	1856.2	--	--	1856.2	--	1856.2
2013	4	1856.3	--	--	1856.3	--	1856.3
2014	4	1894.6	--	--	1894.6	--	1894.6
2015	4	2045.3	--	--	2045.3	--	2045.3
2016	3	1745.4	--	--	1745.4	--	1745.4
2017	3	2029.7	--	--	2029.7	--	2029.7
2018	3	1696.0	--	--	1696.0	--	1696.0
2019	3	1703.9	--	--	1703.9	--	1703.9
2020	2	1247.0	--	--	1247.0	--	1247.0
2021	2	1779.6	--	--	1779.6	--	1779.6
2022	2	1303.3	--	--	1303.3	--	1303.3
2023	2	1290.4	--	--	1290.4	--	1290.4
2024	2	1290.2	--	--	1290.2	--	1290.2
2025	1	758.3	--	--	758.3	--	758.3
2026	2	1912.5	--	--	1912.5	--	1912.5
2027	1	863.1	--	--	863.1	--	863.1
2028	2	1406.7	--	--	1406.7	--	1406.7
2029	1	822.4	--	--	822.4	--	822.4
2030	2	1460.4	--	--	1460.4	--	1460.4
2031	--	97.9	--	--	97.9	--	97.9
2032	--	85.0	--	--	85.0	--	85.0
2033	--	100.7	--	--	100.7	--	100.7
2034	--	48.4	--	--	48.4	--	48.4
Subtotal	**53**	**33401.8**	**--**	**--**	**33401.8**	**--**	**33401.8**

Annual Funding BY$
1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2006	--	537.0	--	--	537.0	--	537.0
2007	--	--	--	--	--	--	--
2008	--	--	--	--	--	--	--
2009	2	1001.5	--	--	1001.5	--	1001.5
2010	2	1045.1	--	--	1045.1	--	1045.1
2011	2	1441.8	--	--	1441.8	--	1441.8
2012	4	1741.5	--	--	1741.5	--	1741.5
2013	4	1712.8	--	--	1712.8	--	1712.8
2014	4	1718.9	--	--	1718.9	--	1718.9
2015	4	1824.6	--	--	1824.6	--	1824.6
2016	3	1531.0	--	--	1531.0	--	1531.0
2017	3	1750.6	--	--	1750.6	--	1750.6
2018	3	1438.4	--	--	1438.4	--	1438.4
2019	3	1420.9	--	--	1420.9	--	1420.9
2020	2	1022.5	--	--	1022.5	--	1022.5
2021	2	1434.8	--	--	1434.8	--	1434.8
2022	2	1033.3	--	--	1033.3	--	1033.3
2023	2	1005.9	--	--	1005.9	--	1005.9
2024	2	989.0	--	--	989.0	--	989.0
2025	1	571.5	--	--	571.5	--	571.5
2026	2	1417.4	--	--	1417.4	--	1417.4
2027	1	629.0	--	--	629.0	--	629.0
2028	2	1007.9	--	--	1007.9	--	1007.9
2029	1	579.4	--	--	579.4	--	579.4
2030	2	1011.7	--	--	1011.7	--	1011.7
2031	--	66.7	--	--	66.7	--	66.7
2032	--	56.9	--	--	56.9	--	56.9
2033	--	66.3	--	--	66.3	--	66.3
2034	--	31.3	--	--	31.3	--	31.3
Subtotal	**53**	**28087.7**	**--**	**--**	**28087.7**	**--**	**28087.7**

Cost Quantity Information
1611 | Procurement | Shipbuilding and Conversion, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway (Aligned with Quantity) BY 2010 $M
2006	--	--
2007	--	--
2008	--	--
2009	2	1629.3
2010	2	1133.4
2011	2	1567.6
2012	4	1877.8
2013	4	1838.3
2014	4	1825.4
2015	4	1839.9
2016	3	1489.3
2017	3	1641.8
2018	3	1372.1
2019	3	1391.2
2020	2	986.0
2021	2	1389.5
2022	2	994.0
2023	2	1006.5
2024	2	995.3
2025	1	538.3
2026	2	1402.5
2027	1	592.4
2028	2	1007.1
2029	1	554.0
2030	2	1016.0
2031	--	--
2032	--	--
2033	--	--
2034	--	--
Subtotal	**53**	**28087.7**

Annual Funding TY$
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway TY $M	Non End Item Recurring Flyaway TY $M	Non Recurring Flyaway TY $M	Total Flyaway TY $M	Total Support TY $M	Total Program TY $M
2012	--	--	20.7	--	20.7	--	20.7
2013	--	--	9.1	--	9.1	--	9.1
2014	--	--	24.4	--	24.4	--	24.4
2015	--	--	12.7	--	12.7	--	12.7
2016	--	--	12.0	--	12.0	--	12.0
2017	--	--	59.0	--	59.0	--	59.0
2018	--	--	46.0	--	46.0	--	46.0
2019	--	--	54.5	--	54.5	--	54.5
2020	--	--	43.3	--	43.3	--	43.3
2021	--	--	37.0	--	37.0	--	37.0
Subtotal	**--**	**--**	**318.7**	**--**	**318.7**	**--**	**318.7**

Annual Funding BY$
1810 | Procurement | Other Procurement, Navy

Fiscal Year	Quantity	End Item Recurring Flyaway BY 2010 $M	Non End Item Recurring Flyaway BY 2010 $M	Non Recurring Flyaway BY 2010 $M	Total Flyaway BY 2010 $M	Total Support BY 2010 $M	Total Program BY 2010 $M
2012	--	--	19.7	--	19.7	--	19.7
2013	--	--	8.5	--	8.5	--	8.5
2014	--	--	22.4	--	22.4	--	22.4
2015	--	--	11.5	--	11.5	--	11.5
2016	--	--	10.7	--	10.7	--	10.7
2017	--	--	51.6	--	51.6	--	51.6
2018	--	--	39.6	--	39.6	--	39.6
2019	--	--	46.1	--	46.1	--	46.1
2020	--	--	36.0	--	36.0	--	36.0
2021	--	--	30.2	--	30.2	--	30.2
Subtotal	**--**	**--**	**276.3**	**--**	**276.3**	**--**	**276.3**

Annual Funding TY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program TY $M
2017	236.6
Subtotal	**236.6**

Annual Funding BY$
1205 | MILCON | Military Construction, Navy and Marine Corps

Fiscal Year	Total Program BY 2010 $M
2017	206.0
Subtotal	**206.0**

Low Rate Initial Production

	Initial LRIP Decision	Current Total LRIP
Approval Date	2/18/2011	2/18/2011
Approved Quantity	24	24
Reference	Acquisition Decision Memorandum	Acquisition Decision Memorandum
Start Year	2005	2005
End Year	2015	2015

The LRIP decision of 24 ships includes 2 ships procured with RDT&E, 2 ships procured in fiscal year (FY) 2009 and the 20 ships being procured in a block buy arrangement in FY 2010 through FY 2015. The Milestone B decision to approve an LRIP quantity of more that 10 percent, by including the ships through FY 2015, covers the LCS Seaframe program requirements up to the full rate production (FRP) acquisition decision planned for FY 2015.

Foreign Military Sales

None

Nuclear Cost

None

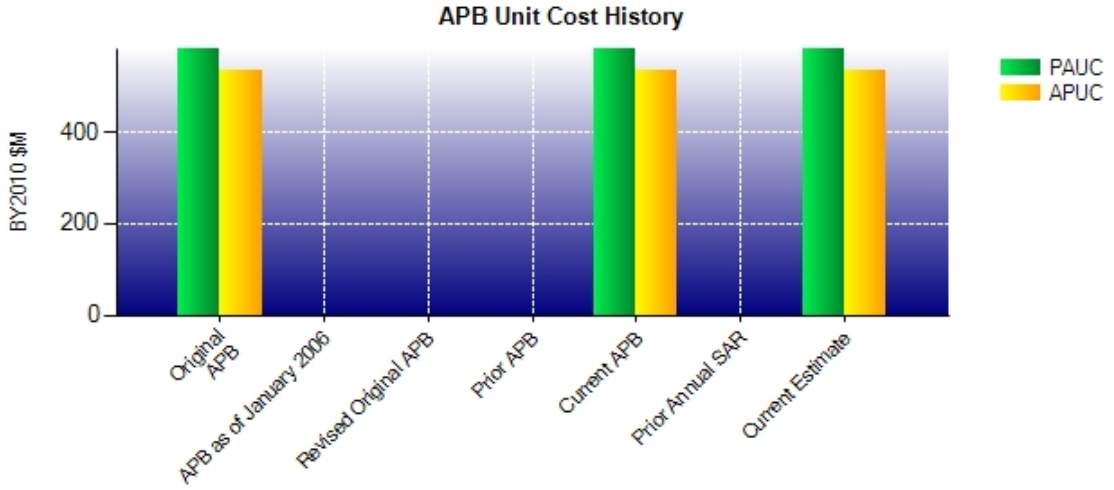
Unit Cost

Unit Cost Report

Unit Cost	BY2010 $M Current UCR Baseline (APR 2011 APB)	BY2010 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	32008.2	31996.8	
Quantity	55	55	
Unit Cost	581.967	581.760	-0.04
Average Procurement Unit Cost (APUC)			
Cost	28369.2	28364.0	
Quantity	53	53	
Unit Cost	535.268	535.170	-0.02

Unit Cost	BY2010 $M Original UCR Baseline (APR 2011 APB)	BY2010 $M Current Estimate (DEC 2010 SAR)	BY % Change
Program Acquisition Unit Cost (PAUC)			
Cost	32008.2	31996.8	
Quantity	55	55	
Unit Cost	581.967	581.760	-0.04
Average Procurement Unit Cost (APUC)			
Cost	28369.2	28364.0	
Quantity	53	53	
Unit Cost	535.268	535.170	-0.02

Unit Cost History



		BY2010 $M		TY $M	
	Date	PAUC	APUC	PAUC	APUC
Original APB	APR 2011	581.967	535.268	680.705	636.236
APB as of January 2006	N/A	N/A	N/A	N/A	N/A
Revised Original APB	N/A	N/A	N/A	N/A	N/A
Prior APB	N/A	N/A	N/A	N/A	N/A
Current APB	APR 2011	581.967	535.268	680.705	636.236
Prior Annual SAR	N/A	N/A	N/A	N/A	N/A
Current Estimate	DEC 2010	581.760	535.170	680.705	636.236

SAR Unit Cost History

Current SAR Baseline to Current Estimate (TY $M)

Initial PAUC Plan Est	Changes								PAUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
605.850	0.747	0.000	3.495	7.175	63.438	0.000	0.000	74.855	680.705

Current SAR Baseline to Current Estimate (TY $M)

Initial APUC Plan Est	Changes								APUC Current Est
	Econ	Qty	Sch	Eng	Est	Oth	Spt	Total	
0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	636.236

SAR Baseline History

Item/Event	SAR Planning Estimate (PE)	SAR Development Estimate (DE)	SAR Production Estimate (PdE)	Current Estimate
Milestone A	MAY 2004	N/A	N/A	MAY 2004
Milestone B	JAN 2007	N/A	N/A	FEB 2011
Milestone C	DEC 2010	N/A	N/A	JAN 2012
IOC	OCT 2007	N/A	N/A	JAN 2014
Total Cost (TY $M)	1211.7	N/A	N/A	37438.8
Total Quantity	2	N/A	N/A	55
Prog. Acq. Unit Cost (PAUC)	605.850	N/A	N/A	680.705

Cost Variance

Summary Then Year $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Plan Est)	1211.7	--	--	1211.7
Previous Changes				
Economic	+34.0	--	--	+34.0
Quantity	--	--	--	--
Schedule	+192.2	--	--	+192.2
Engineering	+194.5	--	--	+194.5
Estimating	+2100.1	--	--	+2100.1
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+2520.8	--	--	+2520.8
Current Changes				
Economic	+7.1	--	--	+7.1
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+200.1	--	--	+200.1
Estimating	+873.2	--	--	+873.2
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+1080.4	--	--	+1080.4
Adjustments	-1331.2	+33720.5	+236.6	+32625.9
Total Changes	+2270.0	+33720.5	+236.6	+36227.1
CE - Cost Variance	3481.7	33720.5	236.6	37438.8
CE - Cost & Funding	3481.7	33720.5	236.6	37438.8

Summary Base Year 2010 $M				
	RDT&E	Proc	MILCON	Total
SAR Baseline (Plan Est)	1339.9	--	--	1339.9
Previous Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	+188.9	--	--	+188.9
Engineering	+193.2	--	--	+193.2
Estimating	+2105.0	--	--	+2105.0
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+2487.1	--	--	+2487.1
Current Changes				
Economic	--	--	--	--
Quantity	--	--	--	--
Schedule	--	--	--	--
Engineering	+188.4	--	--	+188.4
Estimating	+750.4	--	--	+750.4
Other	--	--	--	--
Support	--	--	--	--
Subtotal	+938.8	--	--	+938.8
Adjustments	-1339.0	+28364.0	+206.0	+27231.0
Total Changes	+2086.9	+28364.0	+206.0	+30656.9
CE - Cost Variance	3426.8	28364.0	206.0	31996.8
CE - Cost & Funding	3426.8	28364.0	206.0	31996.8

Previous Estimate: December 2009

Cost Variance Memo

RDT&E adjustments above reflect the removal of the amount apportioned in the RDT&E PE 0603581N Project 3096 for prior fiscal years 2004 and 2005 specifically utilized for Mission Module Development and the funds from Project 3129. These funds will be reported in the Mission Module Program SAR upon Milestone B approval.

The Procurement and MILCON adjustments above reflect the addition of Procurement and MILCON funds in accordance with Section 2432, Title 10, USC.

RDT&E	$M	
Current Change Explanations	**Base Year**	**Then Year**
Revised escalation indices. (Economic)	N/A	+7.1
Adjustment for current and prior escalation. (Estimating)	-6.6	-6.4
Increased estimate supports the Milestone B decision to fully fund the required planning and execution of the program including full requirements for Developmental Test (DT), Operational Test (OT) and Live Fire Test and Evaluation (LFT&E, including Full Scale Shock Trials) both for the Seaframes and with the different Mission Packages, and sustaining systems engineering including mission package integration for both designs for the LCS class of 55 ships through the year 2029. (Estimating)	+701.9	+822.0
Revised estimate for Congressional Small Business Innovative Research (SBIR). (Estimating)	-3.3	-3.3
Increase for engineering effort to complete shipboard Trainers. (Engineering)	+177.7	+189.3
Increase for completion of post delivery efforts for LCS 1 and LCS 2. (Estimating)	+58.4	+60.9
Increase for engineering support to Industrial Post Delivery availabilities and the close out of Trial card deficiencies. (Engineering)	+10.7	+10.8
RDT&E Subtotal	+938.8	+1080.4

Contracts

Appropriation: Procurement	
Contract Name	**Construction - LCS 3**
Contractor	Lockheed Martin
Contractor Location	Baltimore, MD 21220
Contract Number, Type	N00024-09-C-2303/101, FPIF
Award Date	March 23, 2009
Definitization Date	March 23, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
383.2	450.4	1	386.8	453.6	1	379.5	396.0

	Cost Variance	Schedule Variance
Report Date	+11.1	-5.5
Previous Cumulative Variances	--	--
Net Change	+11.1	-5.5

Cost And Schedule Variance Explanations

Favorable Net Cost Variance is attributable to continued positive performance in production labor.

Unfavorable Net Schedule Variance is attributable to pre-outfitting activities which lagged due to the availability of materials, primarily in piping and electrical.

Contract Comments

This is the first time this contract is being reported.

Program Managers Estimate and Contractors estimate as shown above is price to government which accounts for fee and is based on December 2010 actuals.

This report contains the construction CLIN 0101 only. It does not include the value of material reused from the fiscal year 2006 terminated ship contracts.

Appropriation: RDT&E	
Contract Name	**Construction - LCS 4**
Contractor	General Dynamics
Contractor Location	Bath, ME 04530
Contract Number, Type	N00024-09-C-2302/101, FPIF
Award Date	May 01, 2009
Definitization Date	May 01, 2009

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
357.2	410.2	1	368.2	422.6	1	368.2	391.0

	Cost Variance	Schedule Variance
Report Date	-12.8	-14.8
Previous Cumulative Variances	--	--
Net Change	-12.8	-14.8

Cost And Schedule Variance Explanations

Unfavorable Net Cost Variance is attributable to in accurate time phasing of material costs to the current build schedule, which is delayed, leading to the inability to claim progress.

Unfavorable Net Schedule Variance is attributable to the late development of work packages and construction drawings needed to support construction. This late development and release of drawings has resulted in a schedule slip.

Contract Comments

This is the first time this contract is being reported.

Program Managers Estimate and Contractor estimate as shown above is price to government which accounts for fee and is based on December 2010 actuals.

This report contains the construction CLIN 0101 only. It does not include the value of material reused from the fiscal year 2006 terminated ship contracts.

Appropriation: Procurement	
Contract Name	**Construction - LCS 5**
Contractor	Lockheed Martin
Contractor Location	Baltimore, MD 21220
Contract Number, Type	N00024-11-C-2300/1, FPIF
Award Date	December 29, 2010
Definitization Date	December 29, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
436.8	436.8	1	436.8	436.8	1	436.8	436.8

	Cost Variance	Schedule Variance
Report Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost And Schedule Variance Explanations

The baseline cost performance report for this contract effort has not yet been developed and delivered to the Government. Reporting will begin with the next SAR.

Contract Comments

This is the first time this contract is being reported.

Appropriation: Procurement	
Contract Name	**Construction - LCS 6**
Contractor	Austal USA
Contractor Location	Mobile, AL 36601
Contract Number, Type	N00024-11-C-2301/1, FPIF
Award Date	December 29, 2010
Definitization Date	December 29, 2010

Initial Contract Price ($M)			Current Contract Price ($M)			Estimated Price At Completion ($M)	
Target	Ceiling	Qty	Target	Ceiling	Qty	Contractor	Program Manager
432.0	432.0	1	432.0	432.0	1	432.0	432.0

	Cost Variance	Schedule Variance
Report Date	0.0	0.0
Previous Cumulative Variances	--	--
Net Change	+0.0	+0.0

Cost And Schedule Variance Explanations

The baseline cost performance report for this contract effort has not yet been developed and delivered to the Government. Reporting will begin with the next SAR.

Contract Comments

This is the first time this contract is being reported.

Deliveries and Expenditures

Deliveries To Date	Plan To Date	Actual To Date	Total Quantity	Percent Delivered
Development	2	2	2	100.00%
Production	22	0	53	0.00%
Total Program Quantities Delivered	24	2	55	3.64%

Expenditures and Appropriations (TY $M)			
Total Acquisition Cost	37438.8	Years Appropriated	9
Expenditures To Date	2815.2	Percent Years Appropriated	28.13%
Percent Expended	7.52%	Appropriated to Date	6364.1
Total Funding Years	32	Percent Appropriated	17.00%

LCS Seaframe Deliveries and Expenditures current as of February 2, 2011.

Operating and Support Cost

Assumptions and Ground Rules

a) 55 Seaframes with an average Service life of 25 years
b) 83 Crews (40 personnel: 8 Officers /32 Enlisted per crew)
c) Steaming Hours underway/not underway
d) Defense Energy Support Center (DESC) Price of Fuel (Constant Year 2010) $117.60/barrel
e) Government Furnished Equipment (GFE) and Contractor Furnished Equipment (CFE) systems configurations are based on the equipment selected by each contractor

Costs BY2010 $M

Cost Element	LITTORAL COMBAT SHIP 55 Seaframes average annual cost per ship	No Antecedent N/A
Unit-Level Manpower	7.4	--
Unit Operations	8.1	--
Maintenance	6.1	--
Sustaining Support	5.2	--
Continuing System Improvements	7.2	--
Indirect Support	2.6	--
Other	0.0	--
Total Unitized Cost (Base Year 2010 $)	36.6	--

Total O&S Costs $M	LITTORAL COMBAT SHIP	No Antecedent
Base Year	50479.0	--
Then Year	87089.3	--

Source of estimate is the Navy Service Cost Position and OSD Independent Cost Estimate developed and approved in support of LCS Seaframe Milestone B decision February, 2011.